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## VMware vSphere: Install, Configure, Manage v5.1

**Course Duration:** 5 days

**Overview:** In this hands-on course you explore the installation, configuration, and management of VMware vSphere®, consisting of VMware vSphere® ESXi™ and VMware® vCenter Server™. This course is based on prerelease versions of ESXi 5.1 and vCenter Server 5.1.

### **Outline:**

#### **Lesson 1 - Course Introduction**

Introductions and course logistics  
Course objectives

#### **Lesson 2 - Introduction to VMware Virtualization**

Introduce virtualization, virtual machines, and vSphere components  
Explain the concepts of server, network, and storage virtualization  
Describe where vSphere fits into the cloud architecture  
Install and use vSphere user interfaces

#### **Lesson 3 - Creating Virtual Machines**

Introduce virtual machines, virtual machine hardware, and virtual machine files  
Deploy a single virtual machine

#### **Lesson 4 - VMware vCenter Server**

Introduce the vCenter Server architecture  
Introduce VMware® vCenter™ Server Appliance™  
Configure and manage vCenter Server Appliance  
Manage vCenter Server inventory objects and licenses

#### **Lesson 5 - Configuring and Managing Virtual Networks**

Describe, create, and manage a standard virtual switch  
Describe and modify standard virtual switch properties  
Configure virtual switch load-balancing algorithms

#### **Lesson 6 - Configuring and Managing Virtual Storage**

Introduce storage protocols and device names  
Configure ESXi with iSCSI, NFS, and Fibre Channel storage  
Create and manage vSphere datastores  
Deploy and manage VMware vSphere® Storage Appliance

#### **Lesson 7 - Virtual Machine Management**

Use templates and cloning to deploy virtual machines  
Modify and manage virtual machines



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Create and manage virtual machine snapshots

Perform VMware vSphere® vMotion® and VMware vSphere® Storage vMotion® migrations

Create a VMware vSphere® vApp™

### **Lesson 8 - Data Protection**

Discuss a strategy for backing up ESXi hosts and vCenter Server

Discuss solutions for backing up virtual machines efficiently

### **Lesson 9 - Access and Authentication Control**

Control user access through roles and permissions

Configure and manage the ESXi firewall

Configure ESXi lockdown mode

Integrate ESXi with Active Directory

Explain VMware® vShield Endpoint™ integration in VSphere

### **Lesson 10 - Resource Management and Monitoring**

Introduce virtual CPU and memory concepts

Describe methods for optimizing CPU and memory usage

Configure and manage resource pools

Monitor resource usage using vCenter Server performance graphs and alarms

### **Lesson 11 - High Availability and Fault Tolerance**

Introduce the new VMware vSphere® High Availability architecture

Configure and manage a vSphere HA cluster

Introduce VMware vSphere® Fault Tolerance

Describe VMware vSphere® Replication

### **Lesson 12 - Scalability**

Configure and manage a VMware vSphere® Distributed Resource Scheduler™ (DRS) cluster

Configure Enhanced vMotion Compatibility

Use vSphere HA and DRS together

### **Lesson 13 - Patch Management**

Use Update Manager to manage ESXi patching

Install Update Manager and the Update Manager plug-in

Create patch baselines

Scan and remediate hosts

### **Lesson 14 - Installing VMware Components**

Introduce ESXi installation

Describe boot-from-SAN requirements

Introduce vCenter Server deployment options

Describe vCenter Server hardware, software, and database requirements

Install vCenter Server (Windows-based)